PENGARUH KONSENTRASI ALGINAT DAN $CaCl_2$ TERHADAP KADAR BETASIANIN DAN AKTIVITAS ANTIOKSIDAN BUAH NAGA MERAH (*Hylocereus polyrhizus*) HASIL RESTRUKTURISASI

THE ALGINATE AND $CaCl_2$ CONCENTRATION EFFECT TO BETASIANIN CONCENTRATION ANTIOXIDANT ACTIVITY OF DRAGON FRUIT (Hylocereus polyrhizus) RESTRUCTURISATION PRODUCT

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Abstract

The purpose of this study was to determine the effect of alginate and CaCl2 concentration to antioxidant activity and betacyanin content from restructuring product of red dragon fruit, and to determine the best formulation of the product restructuring that produces antioxidant activity and the content of the highest betacyanin on restructurised product. Data were analyzed by 4x2 Factorial Design and Randomized Completely Block Design (RCBD) with 4 replications. As the first factor is the alginate concentration which are 2 %, 3 %, 4 % and 5 %. The second factors are calcium cloride ($CaCl_2$) 0.5 % and 0.75 %, while as the block is the time analysis. To test the differences between treatments means, the Honestly Significant of Differences (HSD) were used at 5% level of significant.

The results showed that the higher concentrations of alginate and CaCl2 causes declining content of antioxidant activity and betacyanin, the best results are obtained on a concentration of 2% alginate and CaCl2 0.5% with betacyanin levels 0.537 ± 0.062 mg / g dry weight basis and 0.132 ± 0.011 mg / g wet weight basis. The antioxidant activity of H. polyrhyzus restructuring amounted to 77.452% ± 0.624 and the best formulation is at a concentration of 2% alginate and concentration of 0.5% CaCl2.

Keywords *: antioxidant, betacyanin, dragon fruit, restructurised*